CHAPTER 6

RESTORATION STRATEGIES IN THE LOWER HATCHIE RIVER WATERSHED

6.1. BACKGROUND.

The Watershed Water Quality Management Plan serves as a comprehensive inventory of resources and stressors in the watershed, a recommendation for control measures, and a guide for planning activities in the next five-year watershed cycle and beyond. Water quality improvement will be a result of implementing both regulatory and nonregulatory programs.

In addition to the NPDES program, some state and federal regulations, such as the TMDL and ARAP programs, address point and nonpoint issues. Construction and MS4 storm water rules (implemented under the NPDES program) have transitioned from Phase 1 to Phase 2. More information on storm water rules may be found at: http://www.state.tn.us/environment/wpc/stormh2o/.

This Chapter addresses point and nonpoint source approaches to water quality problems in the Tennessee portion of the Lower Hatchie River Watershed.

6.2. COMMENTS FROM PUBLIC MEETINGS. Watershed meetings are open to the public, and most meetings were represented by citizens who live in the watershed, NPDES permitees, business people, farmers, and local river conservation interests. Locations for meetings were chosen after consulting with people who live and work in the watershed. Everyone with an interest in clean water is encouraged to be a part of the public meeting process. The times and locations of watershed meetings are posted at: http://www.state.tn.us/environment/wpc/watershed/public.shtml.

6.2.A. Year 1 Public Meeting. The first Lower Hatchie River Watershed public meeting was held jointly with the Upper Hatchie Watershed on September 16, 1999 at the Brownsville Utility Building. The goals of the meeting were to: (1) present, and review the objectives of, the Watershed Approach, (2) introduce local, state, and federal agency and nongovernmental organization partners, (3) review water quality monitoring strategies, and (4) solicit input from the public.

Major Concerns/Comments

- Garbage, especially trash in the stream
- Growth restrictions due to efforts directed at clean water
- Fish safe to eat
- Changes in hydrology seen in the last fifteen years
- Sediment in the Hatchie River from Mississippi
- Accelerated timber harvests due to fear of timber loss where floodplain is standing water (due to hydrological modification)

6.2.B. Year 3 Public Meeting. The second Lower Hatchie River Watershed public meeting was held jointly with the Upper Hatchie Watershed December 6, 2001 at The Nature Conservancy Office in Brownsville. The goals of the meeting were to: (1) provide an overview of the watershed approach, (2) review the monitoring strategy, (3) summarize the most recent water quality assessment, (4) discuss the TMDL schedule and citizens' role in commenting on draft TMDLs, and (5) discuss BMPs and other nonpoint source tools available through the Tennessee Department of Agriculture 319 Program and NRCS conservation assistance programs.

Major Concerns/Comments

- Poor logging practices along the Hatchie lead to increases in sediment load
- Increased pesticides in water from poor agricultural practices
- Hatchie River has less water than it did 50 years ago (pools are shallower due to more sediment)
- Tree tops left in the river after timber harvesting capture sediment so the river is filling in
- Increased frequency of cutting timber early to avoid dead timber after flooding

6.2.C. Year 5 Public Meeting. The third scheduled Lower Hatchie River Watershed public meeting was held October 11, 2007 at the City Hall in Bolivar. The meeting was held jointly with the Upper Hatchie River Watershed and featured nine educational components:

- Overview of watershed approach flash video
- Benthic macroinvertebrate specimens and interpretation
- SmartBoard™ with interactive GIS maps
- "Is Your Stream Healthy" self-guided slide show
- "Why We Do Biological Sampling" self-guided slide show
- Water supply and ground water protection educational display
- Water quality and land use maps
- The Nature Conservancy educational display
- Hatchie River Conservancy educational display

In addition, citizens had the opportunity to make formal comments on the draft Watershed Water Quality Management Plan.

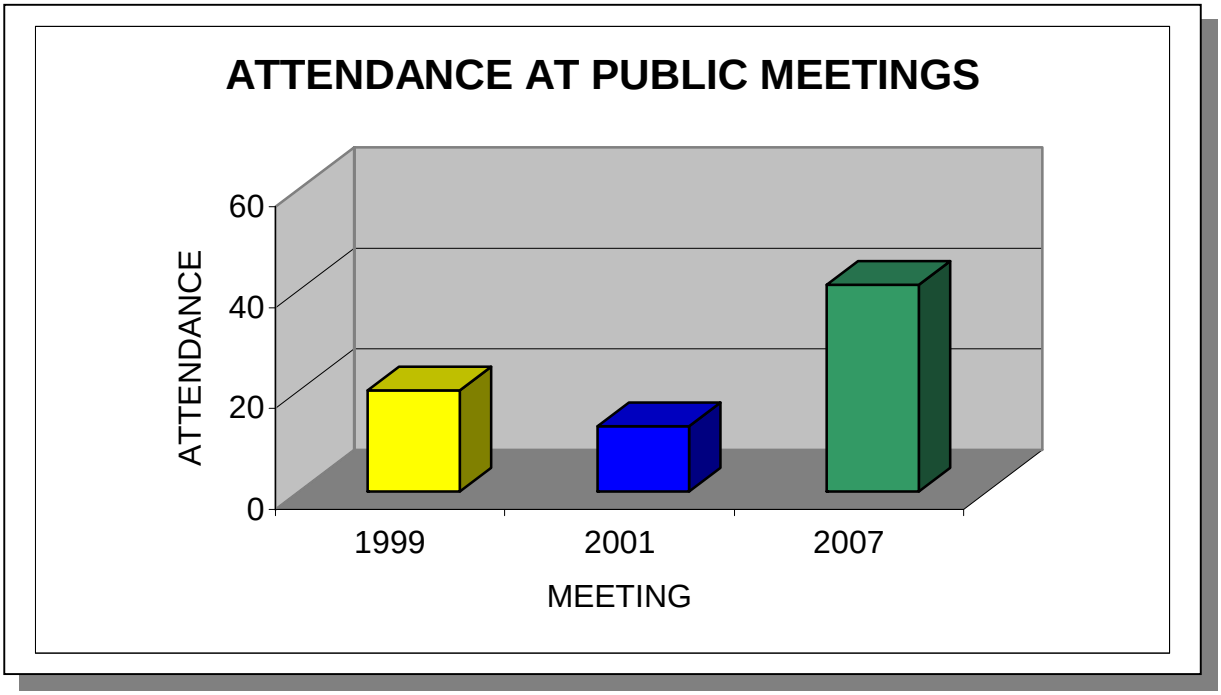

Figure 6-1. Attendance at the Lower Hatchie River and Upper Hatchie River Watersheds Joint Public Meetings. *Attendance numbers do not include TDEC personnel.*

Figure 6-2. Jackson Environmental Field Office Manager Pat Patrick Brings the Watershed Meeting to Order.

Figure 6-3. The SmartBoard™ is an Effective Interactive Tool to Teach Citizens About the Power of GIS.

Figure 6-4. Local Groups, Like the Hatchie River Conservancy, Have an Opportunity to Talk About Their Work with Citizens at the Watershed Meeting.

Figure 6-5. Displays by NGOs, Like The Nature Conservancy, Attract Interest at the Watershed Meeting.

6.3. APPROACHES USED.

6.3.A. Point Sources. Point source contributions to stream impairment are primarily addressed by NPDES and ARAP permit requirements and compliance with the terms of the permits. Notices of NPDES and ARAP draft permits available for public comment can be viewed at http://www.state.tn.us/environment/wpc/wpcppo/. Discharge monitoring data submitted by NPDES-permitted facilities may be viewed at http://www.epa.gov/enviro/html/pcs/pcs_query_java.html.

The purpose of the TMDL program is to identify remaining sources of pollution and allocate pollution control needs in places where water quality goals are still not being achieved. TMDL studies are tools that allow for a better understanding of load reductions necessary for impaired streams to return to compliance with water quality standards. More information about Tennessee's TMDL program may be found at: http://www.state.tn.us/environment/wpc/tmdl/.

Approved TMDL:

Cane Creek. TMDL for total copper for Cane Creek subwatershed from River Mile 17.9 to the confluence with the Hatchie River in Lauderdale County. Approved August 25, 1999.
http://www.state.tn.us/environment/wpc/tmdl/approvedtmdl/cncrcu05.pdf

TMDLs are prioritized for development based on many factors.

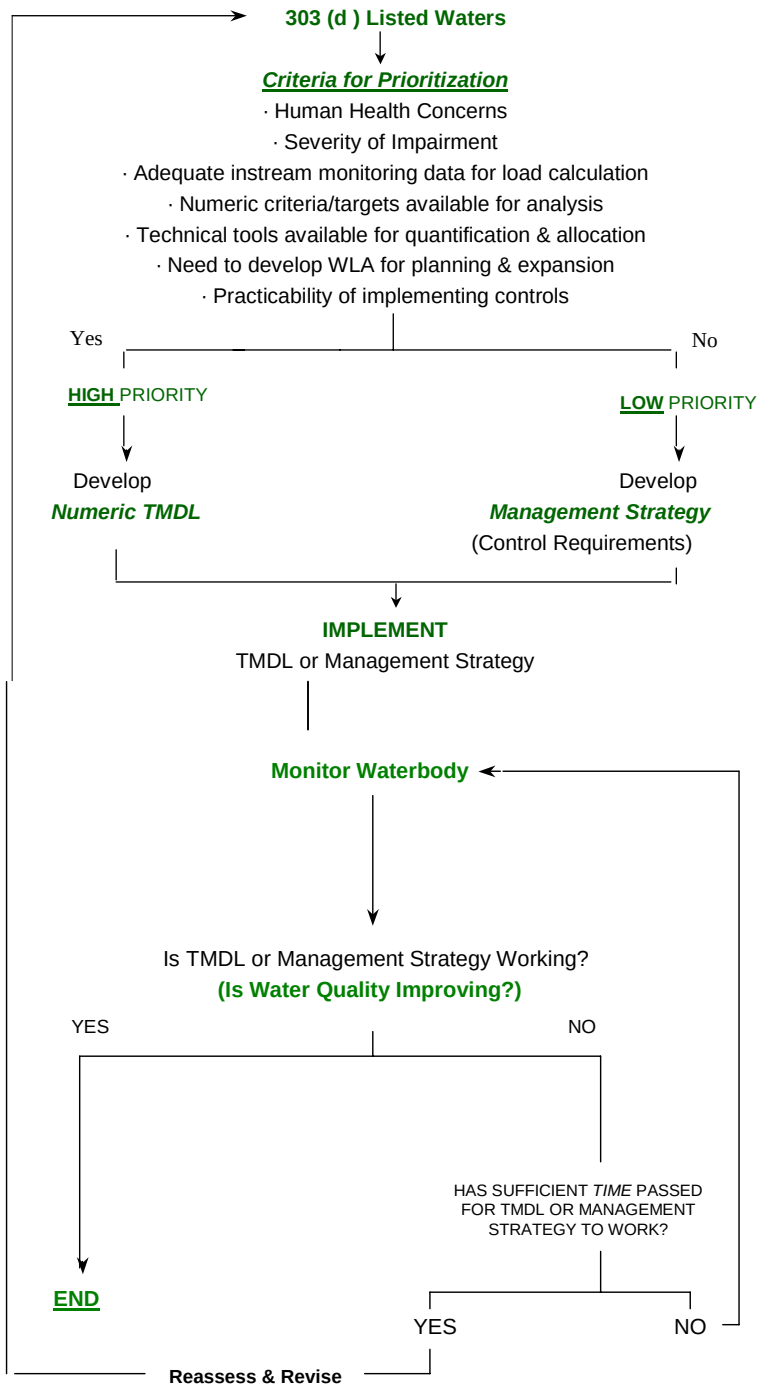

Figure 6-6. Prioritization Scheme for TMDL Development.

6.3.B. Nonpoint Sources

Common nonpoint sources of pollution in the Lower Hatchie River Watershed include urban storm water runoff, riparian vegetation removal and other habitat alterations, as well as inappropriate land development, road construction, and agricultural practices. Since nonpoint pollution exists essentially everywhere rain falls, existing point source regulations can have only a limited effect. Other measures are, therefore, necessary.

There are several state and federal regulations that address contaminants impacting waters in the Lower Hatchie River Watershed. Most of these are limited to point sources: a pipe or ditch. Often, controls of point sources are not sufficient to protect waters, so other measures are necessary. Some measures include efforts by landowners and volunteer groups and the possible implementation of new regulations. Many agencies, such as the Tennessee Department of Agriculture (TDA) and the Natural Resources Conservation Service (NRCS), offer financial assistance to landowners for corrective actions (like Best Management Practices) that may be sufficient for recovery of impacted streams. Many nonpoint problems will require an active civic involvement at the local level geared towards establishment of improved zoning guidelines, building codes, streamside buffer zones and greenways, and general landowner education.

The following text describes types of impairments, possible causes, and suggested improvement measures. Restoration efforts should not be limited to only those streams and measures suggested below.

6.3.B.i. Sedimentation.

6.3.B.i.a. From Construction Sites. Construction activities have historically been considered “nonpoint sources.” In the late 1980’s, EPA designated them as being subject to NPDES regulation if more than 5 acres were being disturbed. In the spring of 2003, that threshold became 1 acre. The general permit issued for such construction sites establishes conditions for maintenance of the sites to minimize pollution from storm water runoff, including requirements for installation and inspection of erosion prevention and sediment controls. Also, the general permit imposes more stringent inspection, design criteria, sediment control measures, and self-monitoring requirements on sites in the watershed of streams that are already impaired due to sedimentation or are considered high quality. Regardless of the size, no construction site is allowed to cause a condition of pollution. Examples of streams impaired by sediment and land development in the Lower Hatchie River Watershed are Sugar Creek and Hyde Creek.

Beginning in 2003, the state began requiring some municipalities to obtain coverage under a permit designed to address nonpoint runoff issues: the General NPDES Municipal Separate Storm Sewer System Permit, commonly known as MS4. This permit requires the holder to develop a comprehensive storm water management program, including the adoption of local regulatory ordinances, regular inspection of construction sites and other discharges into their storm sewers, and a variety of educational, mapping, and monitoring activities. The state audits and oversees these local MS4 programs.

Construction sites within a sediment-impaired watershed may also have higher priority for inspections by WPC and MS4 personnel, and are likely to have enforcement actions for failure to control erosion.

6.3.B.i.b. From Channel and/or Bank Erosion. Many streams within the Lower Hatchie River Watershed suffer from varying degrees of streambank erosion. When steam channels are altered, banks can become unstable and highly erodable. Heavy livestock traffic can also severely disturb banks. When large tracts of land are cleared of vegetation (especially trees) and replaced with impermeable surfaces like asphalt and rooftops, the large increases in the velocities and volumes of storm water runoff can also overwhelm channel and bank integrity because destabilized banks contribute to sediment loadings and to the loss of beneficial riparian vegetation.

Some inappropriate agricultural practices and overzealous land development have impacted the hydrology and morphology of stream channels in this watershed, although none severely enough to cause a loss of use impairment at this time.

Several agencies such as The Nature Conservancy, the NRCS and the TDA, as well as citizen watershed groups, are working to stabilize portions of stream banks using bioengineering and other techniques. Many of the affected streams like Richland Creek, Cypress Creek, Sugar Creek, Cane Creek and headwater streams in the Hatchie system could benefit from these types of projects.

Some methods or controls that might be necessary to address common problems are:

Voluntary Activities

- Re-establish bank vegetation (Flat Creek, Richland Creek, Sugar Creek, Cane Creek).
- Establish off-channel watering areas for livestock by moving watering troughs and feeders back from stream banks (Catron Creek), or at least limit cattle access to restricted areas with armored bank entry.
- Limit cattle access to streams and bank vegetation.

Regulatory Strategies

- Increase efforts in the Master Logger program to recognize impaired streams and require more effective management practices.
- Require post-construction run-off rates to be no greater than pre-construction rates in order to avoid in-channel erosion (all MS4 areas should establish these ordinances).
- Encourage or require strong local buffer ordinances.
- Implement additional restrictions on logging in streamside management zones.
- Limit clearing of stream and ditch banks or other alterations (Flat Creek, Richland Creek, Indian Creek, Nelson Creek, Cane Creek). *Note: Permits may be required for any work along streams.*
- Limit road and utility crossings of streams through better site design.
- Restrict the use of off-highway vehicles on stream banks and in stream channels (Hickory Creek).

Additional Strategies

- Better community planning and MS4 oversight for the impacts of development on small streams, especially development in growing areas (Sugar Creek, Town Creek, Myron Creek).

6.3.B.i.c. From Agriculture and Silviculture. The Water Quality Control Act exempts normal agricultural and silvicultural practices that do not result in a point source discharge. Nevertheless, efforts are being made to address impacts due to these exempted practices.

The Master Logger Program has been in place for several years to train loggers how to install Best Management Practices that lessen the impact of logging activities on streams. Recently, laws and regulations established the authority for the Commissioners of the Departments of Environment and Conservation and of Agriculture to stop the logging operation that, upon failing to install these BMPs, is causing impacts to streams.

Silviculture is an important industry within the Lower Hatchie River Watershed. Clear Cutting is often used in the uplands along headwater streams. In these areas, proper BMPs are necessary to protect steep slopes and to avoid numerous stream crossings. In the bottomland along the Hatchie River, treetops left in the channel induce flooding and channel relocation. The Master Logger Program has made significant improvements in logging operations.

Since the Dust Bowl era, the agriculture community has strived to protect the soil from wind and water erosion. Agencies such as the Natural resources Conservation Service (NRCS), the University of Tennessee Agricultural Extension Service, and the Tennessee Department of Agriculture are striving to identify better ways of farming, to educate the farmers, and to install the methods that address the sources of some of the impacts due to agriculture. Cost sharing is available for many of these measures.

Many sediment problems traceable to agricultural practices also involve riparian loss due to close row cropping or pasture clearing for grazing. Lack of any type of vegetated buffers along tributaries of the Hatchie River is a problem in some areas of the watershed, due both to agricultural and residential/commercial land uses. Impacted streams that could benefit from the establishment of more extensive riparian buffer zones include Flat Creek, Richland Creek, Town Creek, Nelson Creek, Cane Creek, and Cypress Creek.

6.3.B.i.d. From Point Sources. Several permitted discharges within the Hatchie River discharge suspended solids under the conditions of an NPDES permit and are reviewed during the watershed cycle for reissuance. A few will also have limits on settleable solids. Those facilities with solids restrictions are Ripley Lagoon, Bolivar Waste Water Treatment Plant, Westover Lagoon, Moutan Clay Plant and mine pits, Covington Waste Water Treatment Plant, and Brownsville Waste Water Treatment Plant.

6.3.B.ii. Pathogen Contamination.

Possible sources of pathogens in streams are inadequate or failing septic tank systems, overflows or breaks in public sewer collection systems, poorly disinfected discharges from sewage treatment plants, and fecal matter from pets, livestock and wildlife washed into streams and storm drains. When fecal bacterial levels are shown to be consistently elevated to dangerously high levels, especially in streams with high potential for recreational uses, the division must post signage along the creek warning the public to avoid contact. Once pathogen sources have been identified and corrected, and pathogen level reductions are documented, the posting is lifted.

Permits issued by the Division of Water Pollution Control regulate discharges from point sources and require adequate control for these sources. Individual homes are required to have subsurface, on-site treatment (i.e., septic tank and field lines) if public sewers are not available. The Division of Ground Water Protection within the Jackson Environmental Field Office and delegated county health departments (Madison and Shelby Counties) regulate septic tanks and field lines. In addition to discharges to surface waters, businesses may employ subsurface treatment for domestic wastewater or surface discharge of treated process wastewater. The Division of Water Pollution Control regulates surface water discharges and near-surface land application of treated wastewater.

Currently, seven stream systems in the Tennessee portion of the Lower Hatchie River Watershed are known to have excessive pathogen contamination. Hyde Creek, Nelson Creek, and Cane Creek are impacted by urban areas, with contributions of bacterial contamination possibly coming from storm water runoff, sewage collection system leaks, or treatment plant operation failures. The city of Ripley is in the process of constructing a new wastewater treatment system with the discharge moved from Cane Creek to the Mississippi River. Many streams in agricultural watersheds show elevated bacterial levels, like the upper reach of Nelson Creek, Flat Creek, and Catron Creek, and Richland Creek. Catron Creek may also have a contribution from a Concentrated Animal Feeding Operation (CAFO).

Some measures that may be necessary to control pathogens are:

Voluntary Activities

- Clean up pet waste.
- Repair failed septic systems.
- Establish off-channel watering of livestock.
- Limit livestock access to streams and restrict stream crossings.
- Improve and educate on the proper management of animal waste from confined feeding operations.

Regulatory Strategies

- Strengthen enforcement of regulations governing on-site wastewater treatment.
- Determine timely and appropriate enforcement for non-complying sewage treatment plants, large and small, and their collection systems.
- Identify Concentrated Animal Feeding Operations not currently permitted.

- Review the pathogen limits in discharge permits to determine the need for further restriction.

Additional Strategies

- Develop intensive planning in areas where sewer is not available and treatment by subsurface disposal is not an option due to poor soils, floodplains, or high water tables.
- Develop and enforce leash laws and controls on pet fecal material
- Greater efforts by sewer utilities to identify leaking lines or overflowing manholes.

6.3.B.iii. Excessive Nutrients and/or Dissolved Oxygen Depletion.

These two impacts are usually listed together because high nutrients often contribute to low dissolved oxygen within a stream. Since nutrients often have the same source as pathogens, the measures previously listed can also address many of these problems. Elevated nutrient loadings are also often associated with urban runoff from impervious surfaces, from fertilized lawns and croplands, and faulty sewage disposal processes. Nutrients are often transported with sediment, so many of the measures designed to reduce sediment runoff will also aid in preventing organic enrichment of streams and lakes.

Dissolved oxygen depletion can also be due to the discharge of other biodegradable materials. These are limited in NPDES permits as ammonia and as either Biological Oxygen Demand (BOD) or Carbonaceous Oxygen Demand (CBOD).

Some sources of nutrients can be addressed by:

Voluntary Activities

- Educate homeowners and lawn care companies in the proper application of fertilizers.
- Encourage landowners, developers, and builders to leave stream buffer zones. Streamside vegetation can filter out many nutrients and other pollutants before they reach the stream. These riparian buffers are also vital along livestock pastures. Examples of streams that could benefit are Flat Creek, Richland Creek, and Town Creek.
- Use grassed drainage ways that can remove fertilizer before it enters streams (Flat Creek, Richland Creek, Lagoon Creek, Cane Creek, Cypress Creek).
- Use native plants for landscaping since they don't require as much fertilizer and water.
- Develop better overall storm water management in urban and residential areas, including retrofitting existing commercial lots, homes, and roadways with storm water quality and quantity BMPs. This would especially improve the urban streams and lakes currently polluted by excessive nutrient inputs.
- Use native plants for landscaping since they don't require as much fertilizer and water.

Physical changes to streams can prevent them from providing enough oxygen to biodegrade the materials that are naturally present. A few additional actions can address this problem:

- Maintain shade over a stream. Cooler water can hold more oxygen and retard the growth of algae. As a general rule, all stream channels suffer from some canopy removal. An intact riparian zone also acts as a buffer to filter out nutrient loads before they enter the water (Prairie Creek).
- Discourage impoundments. Ponds and lakes do not aerate water. *Note: Permits may be required for any work on a stream, including impoundments.*

Regulatory Strategies

- Strengthen enforcement of regulations governing on-site wastewater treatment.
- Impose more stringent permit limits for nutrients discharged from sewage treatment plants.
- Impose timely and appropriate enforcement for noncomplying sewage treatment plants, large and small, and their collection systems.
- Identify Concentrated Animal Feeding Operations (CAFO) not currently permitted.
- Identify any Animal Feeding Operations (AFO) that contribute to stream impacts and declare them as a CAFO requiring a permit.
- Require nutrient management plans for all golf courses.

Additional Strategies

- Encourage TDA- and NRCS-sponsored educational programs targeted to agricultural landowners and aimed at better nutrient management, as well as information on technology-based application tools.
- Support and train local MS4 programs within municipalities to deal with storm water pollution issues and require additional storm runoff quality control measures. Portions of Brownsville, an MS4, drains to Sugar Creek. As Brownsville implements its MS4 program, improvements in Sugar Creek will be expected.

6.3.B.iv. Toxins and Other Materials.

Although some toxic substances are discharged directly into waters of the state from a point source, much of these materials are washed in during rainfalls from an upland location, or via improper waste disposal that contaminates groundwater. In the Tennessee portion of the Lower Hatchie River Watershed, a relatively small number of streams are damaged by storm water runoff from industrial facilities or urban areas. More stringent inspection and regulation of permitted industrial facilities, and local storm water quality initiatives and regulations, could help reduce the amount of contaminated runoff reaching state waters. Examples of streams that could benefit from these measures include the many small, urbanized tributaries in the Ripley Area.

The City of Ripley's new treatment facility and outfall to the Mississippi River will allow two industries to connect to the sewer and remove their industrial wastewater discharges from Old Nelson Creek, Hyde Creek, and Cane Creek.

Past disposal practices can continue to impact groundwater and slowly feed into surface water. The Vesicol Corporation disposed of pesticide residue in a landfill near Teague in northern Hardeman County during the 1960's. A clay cap was constructed over the burial trenches to minimize infiltration and purge wells with treatment of contaminated groundwater were installed. The groundwater pumping and treatment has recently been found to be ineffective and it predicted that a plume of contaminated groundwater would continue to enter Pugh and Clover Creeks. It has not been determined if the concentrations will be sufficient to impact aquatic life. The Environmental Protection Agency and TDEC's Division of Remediation continue to oversee the company's efforts to contain the contamination.

Individuals may also cause contaminants to enter streams by activities that may be attributed to apathy or the lack of knowledge or civility. Litter in roadside ditches, garbage bags tossed over bridge railings, paint brushes washed off over storm drains, and oil drained into ditches are all blatant examples of pollution in streams. To lessen the future impact to the waters of the state, each community can strive to raise its awareness for better conservation practices and prosecution of violators.

Some of these problems can be addressed by:

Voluntary Activities

- Provide public education.
- Paint warnings on storm drains that connect to a stream.
- Sponsor community clean-up days.
- Landscape public areas.
- Encourage public surveillance of their streams and reporting of dumping activities to their local authorities.

Regulatory Strategies

- Continue to prohibit illicit discharges to storm drains and to search them out.
- Strengthen litter law enforcement at the local level.
- Increase the restrictions on storm water runoff from industrial facilities.

6.3.B.v. Habitat Alteration.

The alteration of the habitat within a stream can have severe consequences. Whether it is the removal of the vegetation providing a root system network for holding soil particles together, the release of sediment, which increases the bed load and covers benthic life and fish eggs, the removal of gravel bars, "cleaning out" creeks with heavy equipment, or the impounding of the water in ponds and lakes, many alterations impair the use of the stream for designated uses. Habitat alteration also includes the draining or filling of wetlands.

Recent clean out and maintenance of a portion of Town Creek has resulted in loss of habitat. Creeks that flow through agricultural fields such as Flat Creek and Richland Creek are also commonly cleaned out in hopes of preventing field flooding. However, this process removes any habitat that may have existed.

Although large-scale public projects such as highway construction can alter significant portions of streams, individual landowners and developers are responsible for the vast majority of stream alterations.

Some measures that can help address these problems are:

Voluntary Activities

- Sponsor litter pickup days to remove litter that might enter streams
- Organize stream cleanups removing trash, limbs and debris before they cause blockage.
- Avoid use of heavy equipment to "clean out" streams. Instream work other than debris removal will require an Aquatic Resource Alteration Permit (ARAP).
- Plant native vegetation along streams to stabilize banks and provide habitat.
- Encourage developers to avoid extensive use of culverts in streams.

Current Regulations

- Restrict modification of streams by means such as culverting, lining, or impounding.
- Require mitigation for impacts to streams and wetlands when modifications are allowed.
- Require permitting of all rock harvesting operations.
- Increased enforcement may be needed when violations of current regulations occur, especially for illicit gravel dredging.

6.3.B.vi. Storm Water.

MS4 discharges are regulated through the Phase I or II NPDES-MS4 permits. These permits require the development and implementation of a Storm Water Management Program (SWMP) that will reduce the discharge of pollutants to the maximum extent practicable and not cause or contribute to violations of state water quality standards. The NPDES General Permit for Discharges from Phase I and II MSF facilities can be found at:

http://www.state.tn.us/environment/wpc/stormh2o/.

For discharges into impaired waters, the MS4 General Permit requires that SWMPs include a section describing how discharges of pollutants of concern will be controlled to ensure that they do not cause or contribute to instream exceedances of water quality standards. Specific measurements and BMPs to control pollutants of concern must also be identified. In addition, MS4s must implement the proposed waste load allocation provisions of an applicable TMDL (i.e., siltation/habitat alteration, pathogens) and describe methods to evaluate whether storm water controls are adequate to meet the

waste load allocation. In order to evaluate SWMP effectiveness and demonstrate compliance with specified waste load allocations, MS4s must develop and implement appropriate monitoring programs.

Some storm sewer discharges are not regulated through the NPDES MS4 program. Strategies to address runoff from in these urban areas include adapting Tennessee Growth Readiness Program (TGRP) educational materials to the watershed. TGRP is a statewide program built on existing best management practices from the Nonpoint Education for Municipal Officials program and the Center for Watershed Protection. TGRP developed the program to provide communities and counties with tools to design economically viable and watershed friendly developments. The program assists community leaders in reviewing current land use practices, determining impacts of imperviousness on watershed functions, and allowing them to understand the economics of good watershed management and site design.

6.4. PERMIT REISSUANCE PLANNING

Under the *Tennessee Water Quality Control Act*, municipal, industrial and other dischargers of wastewater must obtain a permit from the Division. Approximately 1,700 permits have been issued in Tennessee under the federally delegated National Pollutant Discharge Elimination System (NPDES). These permits establish pollution control and monitoring requirements based on protection of designated uses through implementation of water quality standards and other applicable state and federal rules.

The following three sections provide specific information on municipal, industrial, and water treatment plant active permit holders in the Lower Hatchie River Watershed. Compliance information was obtained from EPA's Permit Compliance System (PCS). All data was queried for a five-year period between August 1, 2002 and July 31, 2007. PCS can be accessed publicly through EPA's Envirofacts website. This website provides access to several EPA databases to provide the public with information about environmental activities that may affect air, water, and land anywhere in the United States:

http://www.epa.gov/enviro/html/ef_overview.html

Stream Segment information, including designated uses and impairments, are described in detail in Chapter 3, *Water Quality Assessment of the Lower Hatchie River Watershed.*

6.4.A. Municipal Permits

TN0062367 Brownsville STP

Discharger rating: Major
City: Brownsville
County: Haywood
EFO Name: Jackson
Issuance Date: 5/1/05
Expiration Date: 3/31/09
Receiving Stream(s): Hatchie River at mile 76.3
HUC-12: 080102080404
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Waste Activated Sludge (WAS) to dual trickling filter to lagoon system

Segment	TN08010208001_2000
Name	Hatchie River
Size	88.8
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Domestic Water Supply (Supporting), Industrial Water Supply (Supporting), Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-1. Stream Segment Information for Brownsville STP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	487	#/100mL	DMax Conc	3/Week	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
IC25 7day Ceriodaphnia dubia	All Year	1	Percent	DMin Conc	Quarterly	Composite	Effluent
IC25 7day Fathead Minnows	All Year	1	Percent	DMin Conc	Quarterly	Composite	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Grab	Effluent
TRC	All Year	1.7	mg/L	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-2. Permit Limits for Brownsville STP.

Compliance History:
The following numbers of exceedences were noted in PCS:

1 Bypass
13 Biological Oxygen Demand

Comments:
9/24/07 Pretreatment Compliance Inspection (PCI): In compliance.

The purpose of the PCI was to evaluate the status of Brownsville's pretreatment program and to provide any assistance as requested by the pretreatment coordinator. The following comments are based on that inspection:

1. The city and MTD/Cub Cadet must test for TTO or supply the necessary TTO certification statement. You noted that the upcoming test this week will be analyzed for TTO.
2. LASCO Fittings did not certify their self-monitoring reports. All permitted industries must certify their self-monitoring reports.
3. The city must follow its Enforcement Response Plan. The city needs to enforce the requirements for 24-hour notification of violation and the subsequent 30 day follow up sampling.
4. During our inspection of MTD/Cub Cadet, we found a carboy of concentrated floor cleaner near a floor drain that leads to the sewer. We also discovered carboys and drums of caustic and acid sitting side by side with no secondary containment. I asked Mr. David Dunning, MTD Environmental and Safety Manager, to provide <u>separate</u> secondary containment for the floor cleaner, caustics, and acid and he was agreeable. The caustics and acid in particular must not have the same secondary containment. The city should determine the need for secondary containment during each of its annual inspections at each industry. The city should verify installation of secondary containment at MTD in about six weeks.

9/22/06 Reconnaissance Inspection:

Brownsville trickling filter has not begun discharging again. Flow has been diverted to the lagoon. Some influent is being circulated across the trickling filter media to establish a growth on the rocks before the plant is restored to service. The flow is then recirculated to the head of the plant.

In addition to replacing the center column on the trickling filter, repairs have been made to the concrete walls and a new arm installed. The generator was out of service but being repaired. A lot of cleaning and painting was being done.

TN0025011 Henning-Lagoon

Discharger rating: Minor
City: Henning
County: Lauderdale
EFO Name: Jackson
Issuance Date: 6/1/05
Expiration Date: 11/30/09
Receiving Stream(s): Alston Creek at mile 3.6 to Hatchie River at mile 35.2
HUC-12: 080102080603
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Lagoon and spray irrigation system

Segment	TN08010208001_0999
Name	Misc Tribs to Hatchie River
Size	319.3
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Recreation (Not Assessed), Irrigation (Not Assessed), Livestock Watering and Wildlife (Not Assessed), Fish and Aquatic Life (Not Assessed)
Causes	N/A
Sources	N/A

Table 6-3. Stream Segment Information for Henning-Lagoon.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	7.5	mg/L	DMax Conc	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	4	mg/L	MAvg Conc	Weekly	Grab	Effluent
CBOD % Removal	All Year	65	Percent	MAvg % Removal	Weekly	Calculated	% Removal
CBOD5	All Year	40	mg/L	DMax Conc	Weekly	Grab	Effluent
CBOD5	All Year	30	mg/L	MAvg Conc	Weekly	Grab	Effluent
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	941	#/100mL	MAvg Ari Mean	Weekly	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Instream Monitoring
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	DMax Load	Daily	Continuous	Instream Monitoring
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekly	Grab	Effluent
TRC	All Year	0.1	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	120	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	100	mg/L	MAvg Conc	Weekly	Grab	Effluent
pH	All Year	10	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-4. Permit Limits for Henning-Lagoon.

Compliance History:
The following numbers of exceedences were noted in PCS:

2 Total Suspended Solids
9 Escherichia coli
2 Carbonaceous Oxygen Demand
4 Ammonia
2 Carbonaceous Biological Oxygen Demand

Comments:
10/10/07 Technical Assistance Visit and file review.

The division measured flow in Alston Creek. There was not enough flow in the creek to warrant using a meter so we measured the depth of water going over Henning's weir. It was about 0.1 MGD, not enough for Henning to discharge.

Henning has installed an elbow in the discharge line so the pipe will stay full and the new flow meter will operate correctly. The division spoke to Cordell by phone the next morning and told him what we found. We told him there should be a splash pad for the outfall that the pipe work should be covered and the bank stabilized.

TN0041874 Hooper Quick Stop

Discharger rating: Minor
City: Brownsville
County: Haywood
EFO Name: Jackson
Issuance Date: 8/1/04
Expiration Date: 5/28/09
Receiving Stream(s): Mile 0.9 of an unnamed tributary which enters Sugar Branch at mile 1.6
HUC-12: 080102080409
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Extended aeration

Segment	TN08010208031_0100
Name	Sugar Branch
Size	7.9
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Fish and Aquatic Life (Not Assessed), Recreation (Not Assessed), Irrigation (Not Assessed), Livestock Watering and Wildlife (Not Assessed)
Causes	N/A
Sources	N/A

Table 6-5. Stream Segment Information for Hooper Quick Stop.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	10	mg/L	DMax Conc	Monthly	Grab	Effluent
Ammonia as N (Total)	All Year	5	mg/L	MAvg Conc	Monthly	Grab	Effluent
BOD5	All Year	20	mg/L	DMax Conc	Monthly	Grab	Effluent
BOD5	All Year	10	mg/L	MAvg Conc	Monthly	Grab	Effluent
D.O.	All Year	5	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Monthly	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Monthly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Weekdays	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Weekdays	Instantaneous	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.5	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Week	Grab	Effluent

Table 6-6. Permit Limits for Hooper Quick Stop.

Comments:
None

TN0062154 Stanton Lagoon

Discharger rating: Minor
City: Stanton
County: Lagoon
EFO Name: Jackson
Issuance Date: 10/1/04
Expiration Date: 8/31/09
Receiving Stream(s): Wetland area drainage canal at mile 0.4 to Big Muddy Creek at mile 5.6
HUC-12: 080102080501
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Lagoon

Segment	TN08010208007_1000
Name	Big Muddy Creek
Size	7.5
Unit	Miles
First Year on 303(d) List	2004
Designated Uses	Recreation (Not Assessed), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting), Fish and Aquatic Life (Non-Supporting)
Causes	Physical substrate habitat alterations
Sources	Channelization

Table 6-7. Stream Segment Information for Stanton Lagoon.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD % removal	All Year	65	Percent	MAvg % Removal	Weekly	Calculated	%Removal
BOD5	All Year	45	mg/L	DMax Conc	Weekly	Grab	Effluent
BOD5	All Year		MGD	DMax Conc	Weekly	Composite	Influent (Raw Sewage)
BOD5	All Year	120	mg/L	DMax Load	Weekly	Grab	Effluent
BOD5	All Year		MGD	MAvg Conc	Weekly	Composite	Influent (Raw Sewage)
BOD5	All Year	40	mg/L	WAvg Conc	Weekly	Grab	Effluent
BOD5	All Year	96	mg/L	WAvg Load	Weekly	Grab	Effluent
BOD5	All Year	72	mg/L	MAvg Load	Weekly	Grab	Effluent
BOD5	All Year	30	mg/L	MAvg Conc	Weekly	Grab	Effluent
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Weekly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekly	Grab	Effluent
TRC	All Year	0.5	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	120	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	288	mg/L	DMax Load	Weekly	Grab	Effluent
TSS	All Year	100	mg/L	MAvg Conc	Weekly	Grab	Effluent
TSS	All Year	110	mg/L	WAvg Conc	Weekly	Grab	Effluent
TSS	All Year	264	mg/L	WAvg Load	Weekly	Grab	Effluent
TSS	All Year	240	mg/L	MAvg Load	Weekly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-8. Permit Limits for Stanton Lagoon.

Compliance History:
The following numbers of exceedences were noted in PCS:

1 Overflow
1 Bypass
13 Total Suspended Solids
15 Fecal Coliform
14 Escherichia coli
4 Settleable Solids
4 Total Chlorine
17 Biological Oxygen Demand
1 Dissolved Oxygen

Enforcement:
5/21/04 Director's Order #04-015D: City did not apply for NPDES reissuance.

Comments:
None.

TN0064025 Toone STP

Discharger rating: Minor
City: Toone
County: Hardeman
EFO Name: Jackson
Issuance Date: 8/1/04
Expiration Date: 6/30/09
Receiving Stream(s): Pugh Creek Mile 0.8
HUC-12: 080102080109
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Lagoon system

Segment	TN08010208066_0100
Name	Pugh Creek
Size	4.8
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Fish and Aquatic Life (Not Assessed), Recreation (Not Assessed), Irrigation (Not Assessed), Livestock Watering and Wildlife (Not Assessed)
Causes	N/A
Sources	N/A

Table 6-9. Stream Segment Information for Toone STP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	15	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Summer	4	lb/day	DMax Load	2/Month	Grab	Effluent
Ammonia as N (Total)	Summer	2	lb/day	MAvg Load	2/Month	Grab	Effluent
Ammonia as N (Total)	Summer	7	mg/L	MAvg Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	25	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	4	lb/day	MAvg Load	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	15	mg/L	MAvg Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	6	lb/day	DMax Load	2/Month	Grab	Effluent
CBOD % Removal	All Year	65	Percent	MAvg % Removal	Weekly	Calculated	% Removal
CBOD5	All Year	16	lb/day	WAvg Load	Weekly	Grab	Effluent
CBOD5	All Year	70	mg/L	DMax Conc	7/Month	Grab	Effluent
CBOD5	All Year	11	lb/day	MAvg Load	7/Month	Grab	Effluent
CBOD5	All Year	65	mg/L	WAvg Conc	7/Month	Grab	Effluent
CBOD5	All Year	45	mg/L	MAvg Conc	7/Month	Grab	Effluent
CBOD5	All Year	18	lb/day	DMax Load	7/Month	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Weekly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Weekdays	Instantaneous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Weekdays	Instantaneous	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekly	Grab	Effluent
TRC	All Year	0.11	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	120	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	30	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	100	mg/L	MAvg Conc	Weekly	Grab	Effluent
TSS	All Year	110	mg/L	WAvg Conc	Weekly	Grab	Effluent
TSS	All Year	28	lb/day	WAvg Load	Weekly	Grab	Effluent
TSS	All Year	11	lb/day	MAvg Load	Weekly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-10. Permit Limits for Toone STP.

Compliance History:
The following numbers of exceedences were noted in PCS:

2 Dissolved Oxygen
1 Carbonaceous Biological Oxygen Demand

Comments:
8/7/07 Compliance Evaluation Inspection
Comments from inspection:

1. Grass and weeds have been allowed to grow too high on the dike, especially near the water. A short, well-maintained growth of grass discourages rodent activity which can weaken the dike and makes it possible to find and correct erosion problems before they become severe. A good job is being done controlling vegetation on the fence but a better job must be done of keeping the grass mowed around the lagoon.

2. The pump station, laboratory, and lab records were inspected and found to be in good condition.

TN0057487 West Tennessee State Penitentiary

Discharger rating: Minor
City: Henning
County: Lauderdale
EFO Name: Jackson
Issuance Date: 11/1/04
Expiration Date: 9/30/09
Receiving Stream(s): Hatchie River at mile 18.4
HUC-12: 080102080605
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Lagoon system

Segment	TN08010208001_2000
Name	Hatchie River
Size	88.8
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Domestic Water Supply (Supporting), Industrial Water Supply (Supporting), Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-11. Stream Segment Information for West Tennessee State Penitentiary.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	10	mg/L	DMax Conc	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	48	lb/day	DMax Load	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	24	lb/day	MAvg Load	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	5	mg/L	MAvg Conc	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	36	lb/day	WAvg Load	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	7.5	mg/L	WAvg Conc	Weekly	Grab	Effluent
CBOD % Removal	All Year	65	Percent	MAvg % Removal	Weekly	Calculated	% Removal
CBOD5	All Year	40	mg/L	DMax Conc	Weekly	Grab	Effluent
CBOD5	All Year	169	lb/day	WAvg Load	Weekly	Grab	Effluent
CBOD5	All Year	193	lb/day	DMax Load	Weekly	Grab	Effluent
CBOD5	All Year	25	mg/L	MAvg Conc	Weekly	Grab	Effluent
CBOD5	All Year	35	mg/L	WAvg Conc	Weekly	Grab	Effluent
CBOD5	All Year	121	lb/day	MAvg Load	Weekly	Grab	Effluent
D.O.	All Year	5	mg/L	DMin Conc	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Weekly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Instantaneous	Influent (Raw Sewage)
Flow	All Year		MGD	DMax Load	Daily	Instantaneous	Influent (Raw Sewage)
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Composite	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	120	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	581	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	100	mg/L	MAvg Conc	Weekly	Grab	Effluent
TSS	All Year	110	mg/L	WAvg Conc	Weekly	Grab	Effluent
TSS	All Year	532	lb/day	WAvg Load	Weekly	Grab	Effluent
TSS	All Year	484	lb/day	MAvg Load	Weekly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

Tables 6-12a-b. Permit Limits for West Tennessee State Penitentiary.

Comments:
12/11/06 Reconnaissance Inspection:
All four aerators were repaired and working until one went out in November 2006. A rebuilt aerator motor is on hand ready to be installed. Since last visit, a new comminutor and comminutor controls have been installed, new influent lift station pump controls and electronics have been installed, the three influent pumps have been configured to alternate correctly, and the auger has been repaired and is working correctly.

TN0026590 Whiteville STP

Discharger rating: Major
City: Whiteville
County: Hardeman
EFO Name: Jackson
Issuance Date: 12/1/04
Expiration Date: 5/31/09
Receiving Stream(s): Hickory Creek at mile 7.7
HUC-12: 080102080401
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Lagoon system

Segment	TN08010208001_1600
Name	Hickory Creek
Size	25.5
Unit	Miles
First Year on 303(d) List	2004
Designated Uses	Fish and Aquatic Life (Non-Supporting), Recreation (Not Assessed), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	Sedimentation/Siltation, Physical substrate habitat alterations
Sources	Channelization

Table 6-13. Stream Segment Information for Whiteville STP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	3	mg/L	DMax Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	1.5	mg/L	MAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	2.2	mg/L	WAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	13	lb/day	MAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	18	lb/day	WAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	8	mg/L	DMax Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	6	mg/L	WAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	50	lb/day	WAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	30	lb/day	MAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	3.6	mg/L	MAvg Conc	3/Week	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	85	Percent	MAvg % Removal	Monthly	Calculated	% Removal
CBOD % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
CBOD5	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
CBOD5	Summer	20	mg/L	DMax Conc	3/Week	Composite	Effluent
CBOD5	Summer	10	mg/L	MAvg Conc	3/Week	Composite	Effluent
CBOD5	Summer	83	lb/day	MAvg Load	3/Week	Composite	Effluent
CBOD5	Summer	15	mg/L	WAvg Conc	3/Week	Composite	Effluent
CBOD5	Summer	125	lb/day	WAvg Load	3/Week	Composite	Effluent
CBOD5	Winter	40	mg/L	DMax Conc	3/Week	Composite	Effluent
CBOD5	Winter	25	mg/L	MAvg Conc	3/Week	Composite	Effluent
CBOD5	Winter	292	lb/day	WAvg Load	3/Week	Composite	Effluent
CBOD5	Winter	35	mg/L	WAvg Conc	3/Week	Composite	Effluent
CBOD5	Winter	208	lb/day	MAvg Load	3/Week	Composite	Effluent
Cadmium Dissolved (as Cd)	All Year	0.009	mg/L	DMax Conc	Quarterly	Composite	Effluent
Cadmium Dissolved (as Cd)	All Year	0.0038	mg/L	MAvg Conc	Quarterly	Composite	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	941	#/100mL	DMax Conc	3/Week	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Hg (T)	All Year	0.0002	mg/L	MAvg Conc	Quarterly	Composite	Effluent

Table 6-14a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
IC25 7day Ceriodaphnia dubia	All Year	83	Percent	MAvg Min	Quarterly	Composite	Effluent
IC25 7day Fathead Minnows	All Year	83	Percent	MAvg Min	Quarterly	Composite	Effluent
Lead Dissolved (as Pb)	All Year	0.0085	mg/L	MAvg Conc	Quarterly	Composite	Effluent
Overflow Use Occurrences	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Wet Weather
Overflow Use Occurrences	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	3/Week	Composite	Effluent
TRC	All Year	0.04	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	30	mg/L	MAvg Conc	3/Week	Composite	Effluent
TSS	All Year	250	lb/day	MAvg Load	3/Week	Composite	Effluent
TSS	All Year	334	lb/day	WAvg Load	3/Week	Composite	Effluent
TSS	All Year	40	mg/L	WAvg Conc	3/Week	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
TSS % Removal	All Year	85	Percent	MAvg Min	Monthly	Calculated	% Removal
TSS % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-14b.

Tables 6-14a-b. Permit Limits for Whiteville STP.

Compliance History:
The following numbers of exceedences were noted in PCS:

13 Overflows
81 Bypasses
2 Carbonaceous Biological Oxygen Demand
1 pH
1 Ammonia
1 Carbonaceous Oxygen Demand
2 Suspended Solids % Removal

Comments:
None.

TN0058084 Brighton School

Discharger rating: Minor
City: Brighton
County: Tipton
EFO Name: Memphis
Issuance Date: 6/1/04
Expiration Date: 3/30/09
Receiving Stream(s): Mile 1.1 of an unnamed tributary to mile 0.8 of another unnamed tributary to Myron Creek at mile 1.6
HUC-12: 080102080801
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Lagoon system

Segment	TN08010208002_0400
Name	Myron Creek
Size	11.8
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Fish and Aquatic Life (Not Assessed), Recreation (Not Assessed), Irrigation (Not Assessed), Livestock Watering and Wildlife (Not Assessed)
Causes	N/A
Sources	N/A

Table 6-15. Stream Segment Information for Brighton School.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	10	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year	5	mg/L	MAvg Conc	2/Month	Grab	Effluent
CBOD5	All Year	20	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	All Year	10	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.5	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	8.5	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Week	Grab	Effluent

Table 6-16. Permit Limits for Brighton School.

Comments:
None.

TN0020982 Covington STP

Discharger rating: Major
City: Covington
County: Tipton
EFO Name: Memphis
Issuance Date: 5/1/05
Expiration Date: 3/31/09
Receiving Stream(s): Hatchie River at mile 35.2
HUC-12: 080102080603
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Waste Activated Sludge (WAS) to aerobic digester to thickener to land application

Segment	TN08010208001_2000
Name	Hatchie River
Size	88.8
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Domestic Water Supply (Supporting), Industrial Water Supply (Supporting), Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-17. Stream Segment Information for Covington STP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD % removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
BOD % removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
BOD5	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
BOD5	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
BOD5	All Year	30	mg/L	MAvg Conc	3/Week	Composite	Effluent
BOD5	All Year	906	lb/day	MAvg Load	3/Week	Composite	Effluent
BOD5	All Year	1208	lb/day	WAvg Load	3/Week	Composite	Effluent
BOD5	All Year	40	mg/L	WAvg Conc	3/Week	Composite	Effluent
BOD5	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
Bypass of Treatment (occurrences)	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Wet Weather
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	487	#/100mL	DMax Conc	3/Week	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
IC25 7day Ceriodaphnia dubia	All Year	1.8	Percent	DMin Conc	See Permit	Composite	Effluent
IC25 7day Fathead Minnows	All Year	1.8	Percent	DMin Conc	See Permit	Composite	Effluent
Overflow Use Occurrences	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Wet Weather
Overflow Use Occurrences	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Grab	Effluent
TRC	All Year	0.97	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year	1208	lb/day	WAvg Load	3/Week	Composite	Effluent
TSS	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	30	mg/L	MAvg Conc	3/Week	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	40	mg/L	WAvg Conc	3/Week	Composite	Effluent
TSS	All Year	906	lb/day	MAvg Load	3/Week	Composite	Effluent
TSS % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
TSS % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-18. Permit Limits for Covington STP.

Compliance History:
The following numbers of exceedences were noted in PCS:

2 Biological Oxygen Demand
2 Settleable Solids
5 Total Chlorine
3 Fecal coliform
1 Total Suspended Solids
1 Escherichia coli

Comments:
8/30/07 Compliance Evaluation Inspection: The overall appearance of the treatment facility is good. The equipment is well maintained and the grounds are well kept. All the influent and sludge return pumps are operable. At the time of the inspection, one of the three screw influent pumps was in operation. The overflow weirs from the clarifiers were clean. They are cleaned weekly to prevent algae and solids accumulation. Testing of the emergency generator is performed on a routine schedule. The Covington STP had no exceedences of its permit limits for the period January 2006 through December 2006. The chlorination system was working properly and the housing was neat and clean. BOD composite samples are collected before chlorination to avoid seeding the sample. The effluent in the discharge ditch was clear. The flow at the discharge to the unnamed tributary was 1.9 MGD. The odor at the plant was minimal and the sign was in place at the point of discharge at the Hatchie River.

TN0058092 Drummonds School

Discharger rating: Minor
City: Drummonds
County: Tipton
EFO Name: Memphis
Issuance Date: 6/1/04
Expiration Date: 4/30/09
Receiving Stream(s): Hurricane Creek at mile 10.4
HUC-12: 080102080802
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Lagoon system

Segment	TN08010208002_0800
Name	Hurricane Creek
Size	26.3
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Irrigation (Not Assessed), Livestock Watering and Wildlife (Not Assessed), Recreation (Not Assessed), Fish and Aquatic Life (Not Assessed)
Causes	N/A
Sources	N/A

Table 6-19. Stream Segment Information for Drummonds School.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	10	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year	5	mg/L	MAvg Conc	2/Month	Grab	Effluent
CBOD5	All Year	25	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	All Year	15	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.5	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	8.5	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Week	Grab	Effluent

Table 6-20. Permit Limits for Drummonds School.

Comments:
None.

6.4.B. Industrial Permits

TN0026565 Siegel-Robert Automotive Ripley, North

Discharger rating: Major
City: Ripley
County: Lauderdale
EFO Name: Jackson
Issuance Date: 9/1/06
Expiration Date: 8/31/09
Receiving Stream(s): Unnamed tributary at mile 0.6 to the old channel of Nelson Creek at mile 1.0 to Cane Creek at mile 16.5
HUC-12: 080102080701
Effluent Summary: Treated industrial wastewater (via Internal Monitoring Point 01A), noncontact cooling water and storm water runoff from Outfall 001, and storm water runoff from Outfall SW1
Treatment system: Chrome evaporation, chrome reduction, mixing, neutralization, chemical precipitation, flocculation, sedimentation, activated sludge, sedimentation, and final aeration.

Segment	TN08010208034_0200
Name	Nelson Creek
Size	10.6
Unit	Miles
First Year on 303(d) List	2006
Designated Uses	Livestock Watering and Wildlife (Supporting), Fish and Aquatic Life (Non-Supporting), Recreation (Supporting), Irrigation (Supporting)
Causes	Physical substrate habitat alterations
Sources	Channelization

Table 6-21. Stream Segment Information for Siegel-Robert Automotive Ripley, North.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ag (T)	All Year	0.017	mg/L	DMax Conc	Monthly	Composite	Effluent
Ag (T)	All Year	0.017	mg/L	MAvg Conc	Monthly	Composite	Effluent
Ammonia as N (Total)	Summer	1	mg/L	DMax Conc	Weekdays	Grab	Effluent
Ammonia as N (Total)	Summer	0.5	mg/L	MAvg Conc	Weekdays	Grab	Effluent
Ammonia as N (Total)	Winter	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
Ammonia as N (Total)	Winter	1	mg/L	MAvg Conc	Weekdays	Grab	Effluent
CBOD5	Summer	20	mg/L	DMax Conc	3/Week	Grab	Effluent
CBOD5	Summer	10	mg/L	MAvg Conc	3/Week	Grab	Effluent
CBOD5	Winter	25	mg/L	DMax Conc	3/Week	Grab	Effluent
CBOD5	Winter	15	mg/L	MAvg Conc	3/Week	Grab	Effluent
Cd (T)	All Year	0.008	mg/L	DMax Conc	Monthly	Composite	Effluent
Cd (T)	All Year	0.008	mg/L	MAvg Conc	Monthly	Composite	Effluent
Chromium, Hexavalent (ug/L as Cr)	All Year	0.016	mg/L	DMax Conc	2/Month	Composite	Effluent
Chromium, Hexavalent (ug/L as Cr)	All Year	0.011	mg/L	MAvg Conc	2/Month	Composite	Effluent
Cr (T)	All Year	2.8	mg/L	DMax Conc	Monthly	Composite	Effluent
Cr (T)	All Year	0.1	mg/L	MAvg Conc	Monthly	Composite	Effluent
Cu (T)	All Year	0.198	mg/L	DMax Conc	2/Week	Composite	Effluent
Cu (T)	All Year	0.122	mg/L	MAvg Conc	2/Week	Composite	Effluent
Cyanide, Total (CN-)	All Year	0.022	mg/L	DMax Conc	Monthly	Grab	Effluent
Cyanide, Total (CN-)	All Year	0.005	mg/L	MAvg Conc	Monthly	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Hardness Total (as CaCO3)	All Year	250	mg/L	DMin Conc	Daily	Grab	Effluent
IC25 7day Ceriodaphnia Dubia	All Year	100	Percent	DMin Conc	Semi-annually	Composite	Effluent
IC25 7day Fathead Minnows	All Year	100	Percent	DMin Conc	Semi-annually	Composite	Effluent
Ni (T)	All Year	0.6	mg/L	DMax Conc	2/Month	Composite	Effluent
Ni (T)	All Year	0.34	mg/L	MAvg Conc	2/Month	Composite	Effluent
Nitrite + Nitrate Total (as N)	All Year		mg/L	DMax Conc	Weekdays	Composite	Effluent
Nitrite + Nitrate Total (as N)	All Year		mg/L	MAvg Conc	Weekdays	Composite	Effluent
Nitrite + Nitrate Total (as N)	All Year	1.28	mg/L	DMax Conc	Weekdays	Composite	Effluent
Nitrite + Nitrate Total (as N)	All Year		mg/L	MAvg Conc	Weekdays	Composite	Effluent
Oil and Grease (Freon EM)	All Year	31.6	mg/L	DMax Conc	Monthly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	17.2	mg/L	MAvg Conc	Monthly	Grab	Effluent
Pb (T)	All Year	0.262	mg/L	DMax Conc	Monthly	Composite	Effluent
Pb (T)	All Year	0.037	mg/L	MAvg Conc	Monthly	Composite	Effluent
Se (T)	All Year	0.01	mg/L	DMax Conc	Monthly	Composite	Effluent
Se (T)	All Year	0.005	mg/L	MAvg Conc	Monthly	Composite	Effluent
TRC	All Year	0.019	mg/L	DMax Conc	Weekdays	Grab	Effluent
TRC	All Year	0.011	mg/L	MAvg Conc	Weekdays	Grab	Effluent
TSS	All Year	48.9	mg/L	DMax Conc	Weekdays	Composite	Effluent
TSS	All Year	30.4	mg/L	MAvg Conc	Weekdays	Composite	Effluent

Table 6-23a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Temperature (°C)	All Year		°C	DMax Conc	2/Month	Grab	Effluent
Zn (T)	All Year	0.254	mg/L	DMax Conc	Monthly	Composite	Effluent
Zn (T)	All Year	0.254	mg/L	MAvg Conc	Monthly	Composite	Effluent
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-23b.

Tables 6-23a-b. Permit Limits for Siegel-Robert Automotive Ripley, North.

Compliance History:
The following numbers of exceedences were noted in PCS:

2 Ammonia
1 Selenium
1 Total Suspended Solids

Comments:
Injection molding, decorative chrome plating, painting and assembly of plastic parts for automotive industry; modification to extend compliance schedule due to problems with sanitary sewer connection project.

TN0001180 Siegel-Robert Automotive Ripley, South

Discharger rating: Major
City: Ripley
County: Lauderdale
EFO Name: Jackson
Issuance Date: 9/1/06
Expiration Date: 8/31/09
Receiving Stream(s): Unnamed tributary at approximate mile 0.6 to Hyde Creek at mile 2.3 to Cane Creek at mile 13.9 (Outfalls 001, SW1 and SW2)
HUC-12: 080102080701
Effluent Summary: Treated industrial wastewater (via Internal Monitoring Point 01A), noncontact cooling water and storm water runoff from Outfall 001, and storm water runoff from Outfalls SW1 and SW2
Treatment system: Chrome evaporation, chrome reduction, mixing, carbon adsorption, neutralization, chemical precipitation, flocculation, sedimentation, activated sludge, sedimentation, and final aeration.

Segment	TN08010208034_0310
Name	Unnamed Trib to Hyde Creek
Size	1.2
Unit	Miles
First Year on 303(d) List	1990
Designated Uses	Fish and Aquatic Life (Non-Supporting), Recreation (Not Assessed), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	Nitrates
Sources	Industrial Point Source Discharge

Table 6-24. Stream Segment Information for Siegel-Robert Automotive Ripley, South.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ag (T)	All Year	0.017	mg/L	DMax Conc	Monthly	Composite	Effluent
Ag (T)	All Year	0.017	mg/L	MAvg Conc	Monthly	Composite	Effluent
Ammonia as N (Total)	Summer	1	mg/L	DMax Conc	Weekdays	Grab	Effluent
Ammonia as N (Total)	Summer	0.5	mg/L	MAvg Conc	Weekdays	Grab	Effluent
Ammonia as N (Total)	Winter	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
Ammonia as N (Total)	Winter	1	mg/L	MAvg Conc	Weekdays	Grab	Effluent
CBOD5	Summer	20	mg/L	DMax Conc	3/Week	Grab	Effluent
CBOD5	Summer	10	mg/L	MAvg Conc	3/Week	Grab	Effluent
CBOD5	Winter	25	mg/L	DMax Conc	3/Week	Grab	Effluent
CBOD5	Winter	15	mg/L	MAvg Conc	3/Week	Grab	Effluent
Cd (T)	All Year	0.008	mg/L	DMax Conc	Monthly	Composite	Effluent
Cd (T)	All Year	0.008	mg/L	MAvg Conc	Monthly	Composite	Effluent
Chromium, Hexavalent (ug/L as Cr)	All Year	0.016	mg/L	DMax Conc	2/Month	Composite	Effluent
Chromium, Hexavalent (ug/L as Cr)	All Year	0.011	mg/L	MAvg Conc	2/Month	Composite	Effluent
Cr (T)	All Year	2.8	mg/L	DMax Conc	Monthly	Composite	Effluent
Cr (T)	All Year	0.1	mg/L	MAvg Conc	Monthly	Composite	Effluent
Cu (T)	All Year	0.239	mg/L	DMax Conc	2/Week	Composite	Effluent
Cu (T)	All Year	0.147	mg/L	MAvg Conc	2/Week	Composite	Effluent
Cyanide, Total (CN-)	All Year	0.022	mg/L	DMax Conc	Monthly	Grab	Effluent
Cyanide, Total (CN-)	All Year	0.005	mg/L	MAvg Conc	Monthly	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Hardness Total (as CaCO3)	All Year	250	mg/L	DMin Conc	Daily	Grab	Effluent
IC25 7day Ceriodaphnia Dubia	All Year	100	Percent	DMin Conc	Semi-annually	Composite	Effluent
IC25 7day Fathead Minnows	All Year	100	Percent	DMin Conc	Semi-annually	Composite	Effluent
Ni (T)	All Year	0.6	mg/L	DMax Conc	2/Month	Composite	Effluent
Ni (T)	All Year	0.34	mg/L	MAvg Conc	2/Month	Composite	Effluent
Nitrite + Nitrate Total (as N)	All Year		mg/L	DMax Conc	Weekdays	Composite	Effluent
Nitrite + Nitrate Total (as N)	All Year		mg/L	MAvg Conc	Weekdays	Composite	Effluent
Nitrite + Nitrate Total (as N)	All Year	3.93	mg/L	DMax Conc	Weekdays	Composite	Effluent
Nitrite + Nitrate Total (as N)	All Year		mg/L	MAvg Conc	Weekdays	Composite	Effluent
Oil and Grease (Freon EM)	All Year	24	mg/L	DMax Conc	Monthly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	13.9	mg/L	MAvg Conc	Monthly	Grab	Effluent
Pb (T)	All Year	0.243	mg/L	DMax Conc	Monthly	Composite	Effluent
Pb (T)	All Year	0.037	mg/L	MAvg Conc	Monthly	Composite	Effluent
Se (T)	All Year	0.01	mg/L	DMax Conc	Monthly	Composite	Effluent
Se (T)	All Year	0.005	mg/L	MAvg Conc	Monthly	Composite	Effluent
TRC	All Year	0.019	mg/L	DMax Conc	Weekdays	Grab	Effluent
TRC	All Year	0.011	mg/L	MAvg Conc	Weekdays	Grab	Effluent
TSS	All Year	44.9	mg/L	DMax Conc	2/Month	Composite	Effluent
TSS	All Year	30.2	mg/L	MAvg Conc	2/Month	Composite	Effluent

Table 6-25a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Temperature (°C)	All Year		°C	DMax Conc	2/Month	Grab	Effluent
Zn (T)	All Year	0.254	mg/L	DMax Conc	Monthly	Composite	Effluent
Zn (T)	All Year	0.254	mg/L	MAvg Conc	Monthly	Composite	Effluent
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Weekdays	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-25b.

Tables 6-25a-b. Permit Limits for Siegel-Robert Automotive Ripley, South.

Comments:
Injection molding, decorative chrome plating, painting and assembly of plastic and zinc diecast automotive parts; modification to extend compliance schedule due to problems with sanitary sewer connection project.

TN0000205 Kilgore Flares Company, LLC.

Discharger rating: Minor
City: Toone
County: Hardeman
EFO Name: Jackson
Issuance Date: 11/1/04
Expiration Date: 9/29/09
Receiving Stream(s): Pugh Creek at mile 1.3 (Outfalls 001 and 002)
HUC-12: 080102080109
Effluent Summary: Sanitary wastewater, wash-down water and process wastewater from Outfall 001 and non-contact cooling water from Outfall 002
Treatment system: Lagoon

Segment	TN08010208066_0100
Name	Pugh Creek
Size	4.8
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Fish and Aquatic Life (Not Assessed), Recreation (Not Assessed), Irrigation (Not Assessed), Livestock Watering and Wildlife (Not Assessed)
Causes	N/A
Sources	N/A

Table 6-26. Stream Segment Information for Kilgore Flares Company, LLC.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	2	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year	1	mg/L	MAvg Conc	2/Month	Grab	Effluent
CBOD5	All Year	30	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	All Year	15	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	2/Month	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
Flow	All Year		MGD	DMax Load	2/Month	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	2/Month	Instantaneous	Effluent
Oil and Grease (Freon EM)	All Year	15	mg/L	DMax Conc	2/Month	Grab	Effluent
Oil and Grease (Freon EM)	All Year	15	mg/L	MAvg Conc	2/Month	Grab	Effluent
TSS	All Year	40	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	40	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Month	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Month	Grab	Effluent

Table 6-27. Permit Limits for Kilgore Flares Company, LLC.

Compliance History:
The following numbers of exceedences were noted in PCS:

1 pH

Comments:
Production of pyrotechnic distress signals (emergency flares), location markers, decoy flares, etc.

3/5/07 Compliance Evaluation Inspection-Comments from report: It is apparent that much has been done at the main facility to control the potential for runoff from the various points where hazardous materials are stored. During discussion and tour, the addition of a new production area at the main plant was discussed. The necessary paperwork is being prepared to obtain coverage under the general NPDES permit for construction storm water. It was further stated that the new line will be totally self-contained, much like the phosphorus area, and it should not contribute to the contamination of any storm water that falls in this area. The measures that have been taken to stabilize the burning ground area and control the runoff from the various burning pans, such as terraces and berms, appear to have been successful. Some black residue was noted in the immediate vicinity of the burning pans; however, any of this residue that has runoff from these areas appears to have been contained in the various berms and terraces. The main storm water pond appeared to be clear of this black residue. The diligent efforts to clean up the ash and residue around the pans and to remove any residue collected behind the terraces and berms should continue.

TN0075906 TVA Lagoon Creek Combustion Turbines

Discharger rating: Minor
City: Brownsville
County: Haywood
EFO Name: Jackson
Issuance Date: 11/1/04
Expiration Date: 9/29/09
Receiving Stream(s): Wet weather conveyance to unnamed tributary at mile 1.8 to Lagoon Creek at mile 10.2
HUC-12: 080102080602
Effluent Summary: Off-spec rinse water and trailer drain and demineralizer storage water overflow drain from Outfall 001
Treatment system: None

Segment	TN08010208033_0999
Name	Misc Tribs to Lagoon Creek
Size	52.4
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Livestock Watering and Wildlife (Not Assessed), Irrigation (Not Assessed), Fish and Aquatic Life (Not Assessed), Recreation (Not Assessed)
Causes	N/A
Sources	N/A

Table 6-28. Stream Segment Information for TVA Lagoon Creek Combustion Turbines.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
48hr LC50: Ceriodaphnia dubia	All Year	100	Percent	DMin Conc	Annually	Grab	Effluent
48hr LC50: Fathead Minnows	All Year	100	Percent	DMin Conc	Annually	Grab	Effluent
Floating Solids Or Visible Foam-Visual	All Year		YES=1 NO=0	DMax Conc	Monthly	Visual	Effluent
Flow	All Year		MGD	DMax Load	Monthly	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Monthly	Instantaneous	Effluent
TSS	All Year	40	mg/L	DMax Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Monthly	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Monthly	Grab	Effluent

Table 6-29. Permit Limits for TVA Lagoon Creek Combustion Turbines.

Comments:
8 simple-cycle combustion turbines (12 in 2002) burning natural gas or No. 2 fuel, 880 MW of electricity in 2001, and 1,390 MW in 2002

12/7/05 Compliance Evaluation Inspection:
No significant problems noted. Failed biomonitoring in March 2005 when they sampled from end of pipe. They were allowed to resample further downstream in the ditch before it left the property, which allowed some mineral uptake. Retest April 2005 passed. Flows for 2005 are about 20 times higher than on permit application.

TN0074403 Conopco, Inc. d/b/a Slim Fast Foods Company

Discharger rating: Minor
City: Covington
County: Tipton
EFO Name: Memphis
Issuance Date: 2/1/07
Expiration Date: 1/30/10
Receiving Stream(s): Wet weather conveyance into wetlands to unnamed tributary to the Hatchie River at mile 34.0
HUC-12: 080102080603
Effluent Summary: Noncontact cooling water through Outfall 001
Treatment system: None

Segment	TN08010208001_0999
Name	Misc Tribs to Hatchie River
Size	319.3
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Recreation (Not Assessed), Irrigation (Not Assessed), Livestock Watering and Wildlife (Not Assessed), Fish and Aquatic Life (Not Assessed)
Causes	N/A
Sources	N/A

Table 6-30. Stream Segment Information for Conopco, Inc. d/b/a Slim Fast Foods Company.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Fe (T)	All Year		mg/L	DMax Conc	Monthly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Bi-monthly	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Bi-monthly	Instantaneous	Effluent
IC25 7day Ceriodaphnia dubia	All Year	100	Percent	DMin Conc	Annually	Composite	Effluent
IC25 7day Fathead Minnows	All Year	100	Percent	DMin Conc	Annually	Composite	Effluent
Oil and Grease (Freon EM)	All Year	15	mg/L	DMax Conc	Bi-monthly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	10	mg/L	MAvg Conc	Bi-monthly	Grab	Effluent
TRC	All Year		mg/L	DMax Conc	Monthly	Grab	Effluent
TRC	All Year		mg/L	MAvg Conc	Monthly	Grab	Effluent
Temperature (°C)	All Year		°C	MAvg Conc	Bi-monthly	Grab	Effluent
Temperature Diff. Downstrm & Upstrm (°C)	All Year		°C/Hour	MAvg Conc	Bi-monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Bi-monthly	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Bi-monthly	Grab	Effluent

Table 6-31. Permit Limits for Conopco, Inc. d/b/a Slim Fast Foods Company.

Compliance History:
The following numbers of exceedences were noted in PCS:

1 pH

Comments:
Modification of monitoring frequency - Manufacture and canning of diet ready-to-drink products.

TN0000655 Turner Holdings, LLC-Covington

Discharger rating: Minor
City: Covington
County: Tipton
EFO Name: Memphis
Issuance Date: 7/1/05
Expiration Date: 5/31/09
Receiving Stream(s): Unnamed tributary to Town Creek at mile 4.3
HUC-12: 080102080604
Effluent Summary: Non-contact cooling water through Outfall 001
Treatment system: None

Segment	TN08010208896_0999
Name	Misc Tribs to Town Creek
Size	20.9
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Recreation (Not Assessed), Irrigation (Not Assessed), Fish and Aquatic Life (Not Assessed), Livestock Watering and Wildlife (Not Assessed)
Causes	N/A
Sources	N/A

Table 6-32. Stream Segment Information for Turner Holdings, LLC-Covington.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Flow	All Year		MGD	DMax Load	Monthly	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Monthly	Instantaneous	Effluent
Temperature (°C)	All Year		°C	DMax Load	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Monthly	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Monthly	Grab	Effluent

Table 6-33. Permit Limits for Turner Holdings, LLC-Covington.

Comments:
Ice Cream and Frozen Desserts